Test Factor \ System Proponent	ATRC: ACTV	Faroudja
Random Noise		
Multipath		
Microreflections		
Intermodulations		
Impulse Noise		
Hum and L.F. Noise		
Airplane Flutter		
Co-Channel (from ATV, NTSC)		
Adj. Channel (from ATV, NTSC)		
U.H.F Taboos (from ATV, NTSC)		
Coverage Relative to NTSC		

A+

A*-

Classification of Test Factors

*: Gracefulness of Degradation

Compatible NTSC Approach: Terrestrial Transmission Issues

HPG 8/10/90

Test Factor/Attribute \ System Proponent	All ATV and EDTV Systems
Non-Flat Transmission Frequency Response	
Suitability for other Terrestrial Distribution Systems	
Transmission Security	
Practicality of Near-term Technological Implementation	
Long-term Viability/Rate of Obsolesence	
Upgradability/Extendability	
Aspect Ratio	
Use of Underscan/Overscan	

B+

B-

Classification of Test Factors/Attributes
Simulcast and Compatible NTSC Systems

HPG 8/10/90

Bellcore
Bell Communications Research

SS/WP4-0035
6 Aug 1990

Dr. Robert Hopkins
Advanced Television Systems Committee
1776 K Street, N.W.
Suite 300
Washington, D.C. 20006

Dear Bob:

As I mentioned to you on the telephone, I will be on vacation on 10 August, and unable to attend the meeting of Working Party 4. In my place, Tony Uyttendaele has graciously agreed to provide a status report on our recent activities.

Attached, for the consideration of the members, is a copy of our proposed outline for the final report of SS/WP4. It incorporates the minor changes made at the last Task Force meeting on 31 July 1990. If the outline is approved by WP4, our next step will be to begin writing the individual section outlines in more detail. These will be distributed to the other groups in the Advisory Committee as a way of communicating to them our preferences for the format of the reports they will be providing to us. We anticipate that these detailed outlines will be finished by the end of the year, and, if acceptable to WP4, sent to the Advisory Committee for approval as part of the fourth interim report.

The next meeting of our Task Force is scheduled to begin at 2:00 pm on 5 September 1990, at Capital Cities/ABC in New York City.

Best regards,

Bruce

Bruce P. Sidran

Chair,
Task Force on Report Drafting

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FCC ADVISORY COMMITTEE ON ADVANCED TELEVISION SERVICE
SYSTEMS SUBCOMMITTEE
WORKING PARTY ON SYSTEM STANDARDS (SS/WP4)

TASK FORCE ON REPORT DRAFTING

Document Index

Task Force Number	Date	SS/WP4 Number	Document Name
SS/WP4-TF/RD-0003	31 Jul 1990	-----	Information Flow in the Advisory Committee
SS/WP4-TF/RD-0002	31 Jul 1990	SS/WP4-0032	Project Schedule for Advisory Committee
SS/WP4-TF/RD-0001	31 Jul 1990	SS/WP4-0029	Outline for Final Report of SS/WP4
SS/WP4-TF/RD-0000	06 Aug 1990	-----	Document Index

SS/WP4-0036
August 6, 1990

FCC ADVISORY COMMITTEE ON ADVANCED TELEVISION SERVICE
Systems Subcommittee
Working Party on Systems Standards (SS/WP4)
TASK FORCE ON THE RECOMMENDATION METHOD

List of Points of Agreement

At the First Meeting

- Voting would be acceptable as the way of making a recommendation to the FCC, if a proper procedure can be worked out on the details of the method, including an agreement on who will vote.

- Further consideration will be given to a way of selecting systems for field testing that would entail voting being used to identify a recommended system and a group of alternates, all of which would be field tested.

At the Second Meeting

- All issues on which there was prior agreement within SS/WP4 can be revisited, however, the Task Force should be sensitive to those earlier points of agreement.

- The recommendation should be based on consensus, consensus within each of the industry segments and from all industry segments.

- If consensus cannot be reached, the Task Force needs to define a procedure for SS/WP4 to proceed with the selection process. SS/WP4 cannot let third party organizations make this decision.

- There was unanimous agreement on the industry segments that can vote and on the number of votes that each segment can have:

Industry Segment	Votes
Television Broadcast Networks and Stations	5
Cable Television Operators	1
Television Receiver Manufacturers	3
Program Producers	1
Broadcast and Cable Equipment Manufacturers	1

SS/WP4-0037
10 August 1990
25 October 1990

FCC ADVISORY COMMITTEE ON ADVANCED TELEVISION SERVICE
SYSTEMS SUBCOMMITTEE
WORKING PARTY ON SYSTEM STANDARDS (SS/WP4)

MINUTES OF THE SEVENTH MEETING

I. Minutes of the Meeting

1.0 Introduction and Approval of Agenda

The seventh meeting of SS/WP4 was held on Friday, 10 August 1990 in the offices of the EIA, 2001 Pennsylvania Avenue, Washington D.C. The meeting was called to order by the chair, Dr. Robert Hopkins, at 10:15 am. The proposed agenda was approved without comment.

2.0 Minutes of Sixth Meeting

Dr. Hopkins approved the minutes of the Sixth Meeting after open discussion.

3.0 Report of Task Force on Data Format

The report was presented by Mr. Tony Uyttendaele for Mr. Gaggioni. A document titled "Classification of Test Factors" was distributed (SS/WP4-0034). This document was said to be a summary form and is a working document of the Task Force. It was prepared by the Task Force chair after their last meeting. The document listed Test Factors on the left and System Proponents across the top in spreadsheet fashion. The test factors were grouped into categories A+ and A-. Mr. Uyttendaele stated that the final document might include factors from the B+ and/or B- categories. These categories and their meaning were discussed in previous meetings. He said the format would include input data and output analysis. The report would be broken down into objective test data, subjective test data and projected analysis.

Mr. Luplow said that using categories such as A and B can readily be converted to numeric weighting. Mr. Baron commented that weighting could lead to questions after the fact and potential litigation. He reiterated that weighting had been consistently rejected when raised as an issue in PS/WP1. There was considerable discussion of the categories and general strong objection to their use. Dr. Hopkins said the meeting

consensus was that weighting should not be applied. It was agreed that the data to be presented should be selected and then the presentation format defined.

Mr. Luplow commented on the preliminary report of the Task Force (SS/WP4-0030) presented at the last meeting. He said that par. 8.3 was incorrect in stating that compatibility with existing NTSC consumer equipment was a given in the case of compatible NTSC systems. Mr. Luplow suggested that merely calling a system compatible does not assure that it is.

The chair commented that Mr. Luplow has in the past called for VCR compatibility to be included in consideration of NTSC compatibility and emphasized the VCR's importance in all systems. Mr. Donahue agreed that the VCR is vital but that the issue is complicated. He said that much R&D is underway and meetings on EDTV and HDTV VCR's are being held. New standards and hardware will come. He pointed out that MUSE E is in experimental broadcast but that there is still no VCR. Dr. Hopkins said that any system recommended by the Working Party which proved seriously flawed in ability to record would represent a failure of the Working Party in his opinion. Mr. Bailey said that VCR's will come if a system is selected. The VCR certainly should be considered but is not a major issue. Mr. Conanan said that alternative media issues in general had not been sufficiently addressed in the Classification of Test Factors.

Mr. Luplow commented on the Point of Agreement of 11 April 1989, "Whatever system is recommended for terrestrial broadcast must be capable of being carried by cable systems as well." He recommends that a similar statement be included regarding carriage by satellite. Mr. Krauss said he was more concerned about microwave STL's. Many stations have one 25 Mhz link and may not be able to get a second for simulcast.

The chair asked if there was support to expand the Point of Agreement to include satellite. Support was not forthcoming.

4.0 Report of Task Force on Report Drafting

The report was presented by Mr. Uyttendaele for Mr. Sidran. A letter from Mr. Sidran (SS/WP4-0035) reporting the Task Force activities was distributed. An updated version of the Report Outline (SS/wp4-0029) was attached.

Certain changes to the outline were noted:

The title was changed to reflect the report was of WP4 rather than the ACATS.

Chapters 7.2 and 7.3 were reversed in order.

Section 5.2.3 was changed to reflect the name change of the Canadian organization from CABSC to ABSOC. A misspelling was noted and corrected.

Section 5.2.4 was changed from Field Test Report to Field Test Results.

Appendices A3,4,&5 were deleted.

Chapters 8 & 9 were combined to eliminate separate sections for EDTV and HDTV. This was at Mr. Wiley's request.

Mr. Uyttendaele said that chapters 4 through 6 were input to WP4 and all other chapters were WP4 output.

The schedule, still in rough draft form, was discussed. Mr. Uyttendaele said subjective testing was extended past the completion of objective testing since tapes from those tests are required for subjective tests. Field testing was added in Q1 and Q2 1992.

The chair asked if the outline was accepted as the working outline. Mr. Krauss suggested a section on economic issues might be needed. Mr. Otto raised the possibility of including a section between Chapters 7 and 8 discussing tradeoffs. Dr. Lum supported this idea. The chair said we would state to the Task Force that information on how conclusions were reached should be included and ask where this information will be found.

The group agreed that the Task Force on Report Drafting should proceed to write the individual section outlines in more detail.

5.0 Report of the Task Force on the Recommendation Method

The Task Force chair, Mr. Ron Gnidziejko, presented the report. A List of Points of Agreement of the Task Force (SS/WP-0036) were distributed.

The chair commented that we are discussing an alternative to be used if consensus is not achieved. Some form of voting under that condition would not seem out of order. The chair suggested that the Task Force recommendations be addressed as three separate issues in the discussion:

1. Is voting appropriate?
2. Is assigning votes by industry segment appropriate?
3. Are the assignments of votes recommended appropriate?

Mr. Bailey stated general agreement with Item's 1 and 2 but voiced complete disagreement with the specific assignment of votes. While he might agree that broadcasters should have some greater weight, five broadcast votes to one cable segment vote was completely out of balance. Mr. Baron spoke in support of the strong broadcast vote and read from the documents which prompted the formation of the ACATS. A lively discussion ensued.

Mr. Gaspar suggested that a tradeoff list be presented to the FCC if consensus is not reached. Mr. Gnidziejko pointed out that votes would be accompanied by supporting explanation. All of this would be available to the FCC. Mr. Luplow said that if an alternative to consensus is presented, consensus is doomed. He would wait for failure of consensus before addressing alternatives. In any case, he found the voting assignments unacceptable. He pointed out that some proponents would vote and others would not. Mr. Bailey suggested that proponents should be excluded from voting. Mr. Donahue said that eliminating proponents effectively disenfranchises an entire industry segment, the receiver manufacturers. Mr. Tawil said that the advisory committee itself represents a good model for voting assignment.

The chair asked for a show of support for each of the following positions:

1. A voting procedure should be used if consensus is not reached.
2. If a voting procedure is used, voting rights should be assigned by industry segments.
3. Assignment of votes to segments should be weighted, some segments having more votes than others.

Consensus was not achieved on item 1 but support was clear enough for the Task Force to continue to examine a voting procedure. There was strong support of item 2 and 3.

The chair asked if proponents should be permitted to vote. There was generally no objection to proponents being included in voting so long as each had an equal voice. There were questions raised regarding who should be considered a proponent. Some

considered all members of a consortium to be a proponent. Some members of one consortium pointed out that they had merely provided funding and had no financial interest in the proposed system. They went on to point out that others had provided funding for one or more proponents although there was no defined consortium.

6.0 Report of PS/WP3-SG10 on Spectrum Utilization

Don Jansky reported on the activities of the specialists group. This specialists group is addressing the question of coverage area. They are attempting to develop planning factors similar in form to those presently in use for NTSC. They are considering interaction between ATV and NTSC and between ATV and ATV. They will report to SS/WP4 after their September 11 meeting in New York.

7.0 Future Activities of the Task Force on the Recommendation Method and the Task Force on Data Format.

Dr. Hopkins asked for comments on what we want these task forces to do. He reiterated comments from earlier meetings that we must provide a good record of all actions, votes etc. with good supporting arguments

The following comments from the chair and the floor were directed to the Task Force on the Recommendation Method:

1. Review the weighting of industry segments in vote assignment.
2. Review the segments. Are some not represented?
3. Refine voting details.
   Can segment votes be split?
   Who would actually cast votes for each segment?
   Could vote be to recommend two systems to the FCC?

The following comments from the chair and the floor were directed to the Task Force on Data Format:

1. Remove references to categories such as A+ and A- from format.
2. Consider preparing a completed dummy data set for two fictitious systems (a simulcast and a NTSC compatible system) as a means for developing understanding.

9.0 Next Meeting Date and Adjournment

The next meeting will be in mid-October. Dr. Hopkins will notify members once the date and location are determined.

Dr. Hopkins adjourned the meeting at 2:30 pm.

II. List of Attendees

Name	Organization	Telephone	Fax
Mr. Wendell Bailey	NCTA	202-775-3637	202-775-3698
Mr. Stan Baron	NBC	212-664-7557	212-664-6687
Mr. Lynn Claudy	NAB	202-429-5346	202-429-5343
Mr. Virgil Conanan	HBO	212-512-5309	212-512-5598
Mr. Gregory DePriest	Toshiba	201-628-8000	201-628-1875
Mr. Joe Donahue	Thompson	202-872-0670	202-872-0674
Mr. James Gaspar	CBS		
Mr. Ronald Gnidziejko	NBC	212-664-3153	212-581-6687
Mr. David L. Hanna	Consultant/GTE	817-656-1933	
Dr. Robert Hopkins	ATSC	202-828-3130	202-828-3131
Mr. Robert Hurst	DSRC	609-486-5097	609-486-5226
Mr. Brian James	Cable Labs	703-739-3870	202-739-5750
Mr. Don Jansky	Jansky Barmat Tel.	202-467-6400	202-467-6892
Mr. Thomas Keller	Consultant/Cable Labs	203-567-3135	
Mr. Jeffrey Krauss	General Instruments Corp.	301-258-8164	301^977-6330
Mr. Bill Litzinger	Southwestern Bell	314-529-7516	314-529-7573
Dr. Yun-Foo Lum	CRC	613-990-4490	613-993-9950
Mr. Wayne Luplow	Zenith	312-391-7873	
Mr. Tom Mock	EIA	202-457-4975	
Mr. Detlev Otto	Philips Cons. Elec.	615-521-4763	615-521-4728
Ms. Loretta Polk	NCTA	202-775-3664	202-775-3605
Mr. Gerald Robinson	Scientific Atlanta	404-925-5835	404-925-6372
Ms. Julie Rones	Fletcher Heald & Hildreath	202-828-5706	202-828-5786

Name	Organization	Telephone	Fax
Mr. Victor Tawil	MSTV	202-462-4351	202-462-5335
Mr. Tony Uyttendaele	Cap. Cities/ABC Inc.	212-456-3478	212-456-2424
Mr. Joseph Widoff	ATTC	703-739-3850	703-739-3230
Mr. William Zou	PBS	703-739-5475	703-739-8938

III. Agenda

1. Approve Agenda
2. Consideration of Minutes of the Sixth Meeting
3. Report from the Task Force on Data Format
4. Report from the Task Force on Report Drafting
5. Report from the Task Force on the Recommendation Method
6. Other Business
7. Adjournment

IV. Summary of Open Action Items

Assigned	Action Expected for the Next Meeting
Mr. Sidran	Prepare a data flow diagram.
	Proceed to have Task Force write individual section outlines in more detail.
Mr. Gaggioni	Produce list of attributes not on current Attributes List.
	Produce list of groups responsible for each area of data reduction.

Mr. Gnidziejko	Continue to develop the specifics of a voting procedure as proposed. Revise weighting of votes by industry segment and consider whether other segments should be added based on discussions in the Working Party meeting.

V. List of Documents distributed at the Meeting

SS/WP4-0034	Classification of Test Factors
SS/WP4-0035	Letter from Bruce Sidran to Dr. Hopkins Reporting on Task Force on Report Drafting
SS/WP4-0029	Outline for Final Report (revised)
SS/WP4-0036	List of Points of Agreement of the Task Force on the Recommendation Method

VI. Historical List of Points of Agreement by the Members:

14 Jun 1990 The membership chooses not to engage a consultant for Value Engineering analysis at the present time. The option will remain on the table.

14 Jun 1990 A Task Force on the Recommendation Method will be formed with the charter to propose a recommendation procedure to the working party for use in selecting the recommended system. The chair will appoint a task force chairman. [Mr. Ron Gnidziejko subsequently appointed.]

14 Jun 1990 SS/WP4 will make every effort to meet the FCC scheduled deadline of September 30, 1992 for the final report. The report may reflect work remaining such as field testing.

14 Jun 1990 SS/WP4 is prepared to accept the task of certification for field testing and requests authority for such certification from the Systems Subcommittee.

19 Apr 1990 Two new Task Forces will be formed. The Task Force on Data Format will be Chaired by Mr. Gaggioni. The Task Force on Report Drafting will be Chaired by Mr. Sidran.

12 Jul 1989 SS/WP4 will send document SS/WP4-0019, ATV System Models, to the Systems Subcommittee, the ATSC and the EIA. The following text is contained in that document:

> SS/WP4 reaffirms its recognition of the importance of inter-operability between alternative media and terrestrial broadcast standards, and the desirability for consumer ATV receivers to accommodate alternative media inputs.
>
> SS/WP4 encourages the ATSC and the EIA to develop specifications for an appropriate interface that could lead to a voluntary industry standard
>
> The input documents on ATV System Models will be forwarded to both the EIA and the ATSC. Figure 1 of document SS/WP4-0019 (also see document SS/WP4-0018) can serve as an ATV systems model. Figure 2 of document SS/WP4-0019 (see also document SS/WP4-0016) can serve as a model for an ATV receiver.
>
> SS/WP4 will maintain liaison with the EIA and the ATSC on an ongoing regular basis.

11 Apr 1989 SS/WP4 intends to make recommendations based only on consensus. Determination of consensus will be left to the officers. For consensus to exist there must be substantial agreement among the members of the Working Party, and general agreement that consensus exists. If consensus does not exist, but there is a large body of opinion, it will be reported along with any minority opinions.

11 Apr 1989 The primary intention of SS/WP4 is to make a recommendation for the terrestrial broadcast of ATV.

11 Apr 1989 SS/WP4 does not anticipate making recommendations for transmission of ATV on alternative media, but does anticipate other organizations will do so. SS/WP4 will consider inputs from other organizations in its deliberations.

11 Apr 1989 The primary intention of SS/WP4 is to recommend a single standard for the terrestrial transmission of ATV.

11 Apr 1989 Whatever system is recommended for terrestrial broadcast must be capable of being carried by cable systems as well.

11 Apr 1989 SS/WP4 recognizes the importance of inter-operability between alternative media and terrestrial broadcast standards, and the desirability for consumer ATV receivers to accommodate alternative media inputs. However, it does not anticipate making recommendations in these areas, but does anticipate other organizations doing so. SS/WP4 will consider inputs from other organizations in its deliberations.

11 Apr 1989 SS/WP4 will not document a standard in the manner of SMPTE or EIA, rather its role is to recommend a standard documented by others.

17 Jan 1989 The Charter was amended to read: "The Working Party on System Standards shall recommend standards for the transmission of ATV based upon information supplied by any and all other Working Parties in the Advisory Committee."

17 Jan 1989 If it is deemed to be appropriate as part of the decision process to assign weights (or levels of importance) to various findings of the other Working Parties, SS/WP4 alone shall do so.

Bellcore
Bell Communications Research

SS/WP4-0038
19 Oct 1990

Dr. Robert Hopkins
Advanced Television Systems Committee
1776 K Street, N.W.
Suite 300
Washington, D.C. 20006

Dear Bob:

The Task Force on Report Drafting met for the fifth time today at CBS in New York. Most of the discussion centered around refining the outline for the final report. Partly because the outline has changed somewhat from the previous version, and partly because it's important to articulate clearly to the members of WP4 the philosophy implied, this letter will review the document section by section in a fair amount of detail. By doing so, I hope to encourage a thorough exchange of views, and some lively discussion, at your WP4 meeting next week.

First of all, we must be mindful that the primary goal of the final report is to help the FCC choose a terrestrial transmission standard, and our results must be usable to that end. Of course, the work must also take into account issues of interoperability with alternative media. Secondly, the report should provide the effected industries with information they need to plan and implement an ATV system. The second goal is important, but only after the first is satisfied.

While some may have a different approach, our Task Force felt that ultimately we will be recommending a technology, not necessarily a system. Our job will be greatly simplified if the recommended technology can be realized by one vendors' hardware. However, the possibility exists that we may discover that the best solution to the terrestrial transmission problem utilizes the video transmission scheme from System A, the audio sub-system from System C, and the data compression algorithm proposed by Company G. In that case, our recommendation may be that the developers of those technologies get together to create a truly superior system. Admittedly, a risk is introduced by such an approach. Those companies may not get together, and the truly superior system will never be built. In the meantime we will all have wasted a great deal of time and effort.

Sections 1 - 6 of the current document (SS/WP4-0029, dated 19 October 1990) were not changed from the previous version. It is significant to note here that sections 4, 5 and 6 are intended to be *input* contributions from the various groups named. The rest of the document is the output, or work product, of WP4. In my last letter to you (document SS/WP4-0035), I mentioned that our Task Force intends to write detailed outlines for several of the sections and, when approved by WP4, distribute them to other groups in the Advisory Committee as a means of guiding their input to WP4. I specifically mean we will write and distribute outlines for sections 4, 5 and 6. We still intend to complete this work early in 1991.

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The substantive work of WP4 begins with Section 7, entitled Selection Criteria. This is a new section, appearing in the outline for the first time. Its existence was suggested by a need to develop, understand, and write down, those issues which will set the context for a recommendation. While not completely separable, those issues, and this section, are, in general, *independent* of any particular technology or specific implementation. This chapter is intended to be a discussion of what's important, and why, based upon real world constraints and considerations. It is, in a very real sense, the foundation upon which the rest of the report, and the rest of WP4's work, will be based. Logically, then, it will be the first section written.

The four sub-divisions of the chapter, entitled Policy and Regulatory Issues, Spectrum Utilization, Economics, and Technology, form a kind of "decision tree" to guide our work. There may be other considerations identified and added later, but these four certainly begin to address issues critical to the success of any system. The first section, Policy and Regulatory Issues, would ask, and hopefully answer, such questions as "Can existing television licensees be granted additional allocations for a simulcast ATV broadcast, or must all interested parties be given an equal opportunity to compete for any available spectrum"? This is clearly an issue requiring legal review, and we will seek advice from appropriate authorities, for example, the Implementation Subcommittee. It is also an issue which applies equally to any and all specific systems under consideration and, in that sense, is independent of whether we are talking about, for example, SC-HDTV, Narrow MUSE, or Digicypher.

Having answered the first series of questions, we then proceed to consider issues of Spectrum Utilization. Is enough additional spectrum available to accommodate all existing licensees in all markets. If not, what is an acceptable accommodation percentage? Must any new ATV system respect existing NTSC coverage contours? If yes, what D/U does that imply? If no, what new contours are acceptable? How does the new coverage pattern change the existing concept of "markets" or ADIs? What impact will the new definition have on viewership, and on spot rates, the true "bottom line" for a broadcaster. Must some systems be eliminated from further consideration because they can't be broadcast with sufficient power to maintain current contours without adversely effecting adjacent or co-channel ATV stations, or existing NTSC stations. This kind of information is clearly critical to help the FCC make a decision, and important for the industry.

Economics are also critically important, to the broadcasters, alternative media, receiver manufacturers, and consumers. No system will be accepted, regardless of the signal quality transmitted, if reasonably priced receivers can't be manufactured, or TV stations can't afford the necessary production and transmission equipment. These issues, as well as scenarios for projected receiver penetration rates at various prices, and consumer willingness to pay information (if any is available) will be discussed in Section 7.3.

The last sub-section of Chapter 7 deals with issues of technology. In particular, paragraph 7.4.1. requires some explanation. We intend to discuss some very amorphous matters and need some guidance. Picture and sound quality are certainly part of the total viewing experience, as is sound image, the number and

psychoacoustic arrangement of the sound channels and their relationship to the video. Artifacts, or freedom from them, also contribute to the experience, as does the availability of ancillary services. There are other factors as well, but the point of this paragraph is to try and understand whether, after paying a substantial amount of money for an ATV system, customers will be happy with the result.

Chapter 8 contains the analysis of the actual system test data. The word "system" was added to the title here to underscore this fact. While Chapter 7 discussed issues relevant to all systems, Chapter 8 takes a different, but equally important perspective. It looks simultaneously at all the information collected about a single system. Notice that the system data is then grouped into the same categories as we explored in Chapter 7. The yardstick we created is then used to judge system performance. A very practical benefit of this approach is that each sub-section of Chapter 8 can be written in a pipelined fashion, as the test data becomes available. We feel strongly that, given the challenging timetable, this approach is our best hope to finish the final report on time.

After all the groundwork is completed, Chapter 9 gets to the very heart of the matter, the recommendation. We described the world in Chapter 7 and the systems in Chapter 8. Hopefully, by comparing the two approaches along the same dimensions, we will be able to agree on a course of action.

Once a recommendation is made, the next step is to help assure its adoption by developing an implementation plan. This is the subject of Chapter 10. Again, we will need a lot of help from various experts who do not usually participate in the work of WP4.

Chapter 11 is entitled Future Work. As you have pointed out several times, WP4 will not be writing a standard in the manner of SMPTE, for example. That will be left to others. In Chapter 11 we have an opportunity to suggest further work which should be done, and how those tasks might be accomplished.

The report concludes with summary conclusions and observation in Chapter 12. As I write this letter it occurs to me to add a small section to recognize and acknowledge all the hard work people have done in contributing to WP4, and in the actual preparation of the report.

The next meeting of our Task Force is scheduled to begin at 10:00 a.m. on 7 January 1991. The meeting place will be announced shortly.

Best regards,

Bruce

Bruce P. Sidran

Chair,
Task Force on Report Drafting

7.4. Technology

7.4.1. Total Viewing Experience Compared to NTSC

7.4.2. Transmission Robustness

7.4.2.1. Gracefulness of Degradation

7.4.3. Range of Services and Features

7.4.4. Extensibility

7.4.5. Interoperability Considerations

8. Analysis of System Data

8.1. System A

8.1.1. Policy and Regulatory Issues

8.1.2. Spectrum Utilization

8.1.3. Economics

8.1.4. Technology

8.2. System B

8.2.1. Policy and Regulatory Issues

8.2.2. Spectrum Utilization

8.2.3. Economics

8.2.4. Technology

8.3. System C

8.3.1. Policy and Regulatory Issues

8.3.2. Spectrum Utilization

8.3.3. Economics

8.3.4. Technology

8.4. Other Sections as necessary (one per system)

9. Recommendations

9.1. Policy

9.2. Technology and Standards

9.3. Regulatory Issues

10. Implementation Plan

11. Future Work

11.1. Development of Standards

12. Conclusions

13. Notes and Comment

14. Bibliography

15. Acknowledgements

Appendices

A1. Raw Data

A2. Methods of Data Reduction

SONY

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Business and Professional Group
3 Paragon Drive
Montvale, New Jersey 07645-1735
Telephone (201) 930-1000

DRAFT

SS/WP4-0039
Oct. 22 1990

FCC ADVISORY COMMITTEE ON ADVANCED TELEVISION SERVICE

SYSTEMS SUBCOMMITTEE

WORKING PARTY ON SYSTEMS STANDARDS (SS/WP4)

STATUS REPORT OF THE TASK FORCE ON DATA FORMAT

The meetings of the Task Force on Data Format held on September 28 (Bellcore offices, Washington DC.) and October 22, 1990 (NBC, New York) focused on a revision of the preliminary information supplied by ATTC in the development of data formats for the presentation tests results.

In considering data obtained only from objective tests and expert observer/listener tests, the ATTC has indicated that the test results will be presented using four possible output forms:

-- Written material: reflecting expert viewer observations and technical readings.

-- Computer data: instrument settings or readings for a specific condition being tested; tallies of expert viewer/listener assessments of pictures, sound, waveforms, etc.

-- Photographs (black & white) of single frames and waveforms.

-- Tape recordings of test data for production of subjective rating tapes, archive purposes, or both.

30 Years in America

Examples of some of these output forms have been studied by the members of this Task Force and are attached for reference.

The Task Force on Data Format endorses this work and would like to present the following recommendations that we believe will help in the simpler and clearer presentation of the test data.

1) We support the notion of introducing the average value of multiple measurements of the same parameter. This will prove to be very helpful in the generation of graphical data. However, we recommend adding the corresponding value of standard deviation in order to quantify the spread of the test data. Should other statistical methods be included, it will be necessary to explicitly describe the mathematical procedure in accompanying text.

2) In all data sheets that exhibit technical abbreviations, we would like to suggest the inclusion of footnotes briefly defining these terms. This, we find, will help in the overall understanding of the collected data.

3) Using as a specific example the sample data sheet "1.3.1 Luminance Static Horizontal Resolution" (see attatchment), we would like to suggest the following modifications:

-- Use of "landscape" or "portrait" mode for presentation of test data whenever appropiate to facilitate visual observation of the information.

-- It is necessary to avoid the use of alphanumeric elements that may cause confussion in the logging of the data. For example, the use of brackets with numbers throughout the data sheet may be interpreted as either a call for a reference listed somewhere else or as a range of values for the data in question.

-- The title of the test measurement should be clearly written, differentiating it from the rest of the text. Also, we recommend writing the name of the system under test, its class (i.e., simulcast or NTSC compatible), title of the test and date of the measurement, on the upper right-hand side corner (reduced size lettering) of the data sheet. This will help in the indexing of the tests or inspection of the data sheet, especially after all the test measurements are completed for the particular system.

-- The space presently allocated in the sample sheet for the logging of the Time Code information is not sufficient considering the length of the time code number, and inclusion of the video tape reel number.

4) In relation to the attatched sample form "Threshold of Visibility of Interference", we have the following comments:

-- The size of the boxes is too small for the logging of the data.

-- We suggest the addition of measurements for cochannel interference using "no offset in the carrier frequency".

-- The groups of three values (UHF Taboos) should be differentiated by use of, for example, double lines.

-- Not enough space for the ATV and NTSC carrier frequencies in Hz.

5) In reference to the attatched examples of graphical data, we have the following comments:

-- If the number of data points is manageable, we suggest the inclusion of the data points as well as the interpolating curve. It would also be helpful, for the entire ATV test process, if information is provided on the type of interpolating procedure used in the generation of curves from the discrete data points.

-- Figure numbers should reference, in some manner, the relevant paragraphs in the test procedure describing the measurement in question.

-- Again, a short annotation containing the title of the experiment, name of the system and date of the measurement should be included in the upper right-hand side corner of the page for indexing purposes.

Finally, we would like also to recommend that the source of the test data be included with the data sheet, i.e., ATTC, Cable Labs, or CRC.

The Task Force on Data Format has also concluded that similar revisions of generic forms for the collection and presentation of test data should be carried out with data forms provided by the Canadian Research Center and Cable Labs.

The next meeting of the Task Force on Data Format will be held at 10.00 a.m. on Tuesday, November 20, 1990, place to be determined in New York City.

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